

**What is claimed is:**

1. An air cleaner comprising:

a cabinet including an inlet drawing a room air, and an outlet discharging a cleaned air to a room;

a filter assembly provided inside the cabinet so as to remove dust and smell particles from the room air drawn through the inlet;

a fan provided inside the cabinet so as to discharge the cleaned air to the outlet after drawing the room air;

a sensor assembly provided inside the cabinet so as to sense composition of the room air drawn through the inlet;

a supplier assembly provided inside the cabinet so as to provide at least one of insufficient components of the room air to the air cleaned by the filter assembly; and

a controller controlling the supplier assembly on the basis of data regarding the composition of the room air from the sensor assembly.

2. The air cleaner as claimed in claim 1, wherein the sensor assembly senses the composition of the room air before the air passes through the filter assembly.

3. The air cleaner as claimed in claim 1, wherein the sensor assembly includes at least one of:

a first sensor measuring an oxygen content of the room air;

a second sensor measuring a temperature inside the room;

a third sensor measuring a dust content of the room air; and

a fourth sensor measuring a gas content of the room air

4. The air cleaner as claimed in claim 3, wherein the fourth sensor is provided to measure at least one of carbon monoxide CO<sub>2</sub> and nitride oxide NO<sub>x</sub>.

5. The air cleaner as claimed in claim 3, wherein the sensor assembly includes a fifth sensor measuring the humidity inside the room.

6. The air cleaner as claimed in claim 1, wherein the supplier assembly includes a first supplier providing oxygen to the cleaned air.

7. The air cleaner as claimed in claim 6, wherein the supplier assembly includes a second supplier providing anion to the cleaned air.

8. The air cleaner as claimed in claim 6, wherein the supplier assembly includes a third supplier providing terpene to the cleaned air.

9. The air cleaner as claimed in claim 1, further comprising a cooling/heating device provided inside the cabinet, so as to cool or heat the cleaned air.

10. The air cleaner as claimed in claim 9, wherein the cooling/heating device is provided with a thermoelectric module.

11. The air cleaner as claimed in claim 10, wherein the thermoelectric module includes:

a first side having an exothermic or endothermic reaction, and being in contact with the cleaned air; and

a second side having an opposite reaction to that of the first side, and not being in contact with the cleaned air.

12. The air cleaner as claimed in claim 1, wherein the fan has a variable rotation speed.

13. A method of controlling an operation of an air cleaner comprising:

sensing a room air drawn into the inside of a cabinet through an inlet;

measuring insufficient components of the room air and the amount thereof by comparing the sensed data with previously inputted data; and

providing at least one of the insufficient components of the room air to the air cleaned by a filter assembly and guided to an outlet by a fan.

14. The method as claimed in claim 13, wherein at least one of oxygen and anion is provided to the air cleaned by the filter assembly and guided to the outlet by the fan.

15. The method as claimed in claim 13, further comprising a step of providing terpene to the air cleaned by the filter assembly and guided to the outlet by the fan.

16. The method as claimed in claim 13, further comprising steps of:

calculating at least one of a dust content and a gas content of the room air on the basis of the sensed data; and

controlling a rotation speed of the fan on the basis of at least one of the dust content and the gas content.

17. The method as claimed in claim 16, wherein the fan has a variable rotation speed including:

a high speed when the dust or gas content of the room air is above the previously inputted range;

a normal speed when the dust or gas content of the room air is within the previously inputted range; and

a low speed when the dust or gas content of the room air is below the previously inputted range.

18. The method as claimed in claim 13, further comprising steps of:

detecting that a temperature of the room air is within a summer season temperature range or a winter season temperature range on the basis of the previously inputted data; and

cooling or heating the air cleaned and guided to the outlet on the basis of the detected season.

19. The method as claimed in claim 18, wherein, if it is detected that the room air has a temperature corresponding to a summer season, the cleaned air, having a temperature lower than the temperature of the room air at a range between 1 °C and 3 °C, is provided to an indoor room.

20. The method as claimed in claim 18, wherein, if it is detected that the room air has a temperature corresponding to a winter season, the cleaned air, having a temperature higher than the temperature of the room air at a range between 1 °C and 3 °C, is provided to an indoor room.